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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,740	08/24/2006	Bernd Wenderoth	278703US0PCT	8331

22850 7590 06/03/2008
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1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

STANLEY, JANE L

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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06/03/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/550,740	Applicant(s) WENDEROTH ET AL.	
	Examiner JANE L. STANLEY	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 1-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20051222</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: page 6 recites the term "etheroxygen" (see lines 6 and 19) and this appears to be a misspelling of the words "either oxygen".

Appropriate correction is required.

Abstract

The abstract of the disclosure is objected to because the abstract contains legal phraseology and is more than one paragraph in length. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

Claims 1-13 are objected to because of the following informalities: **claim 1** recites the term “etheroxygen,” this appears to be a misspelling of the words “either oxygen”. This includes **claims 2-13** as they depend from **claim 1**. Appropriate correction is required

Claim 2 is objected to because of the following informalities: the term “tetrathylene” appears to be a misspelling of the word “tetraethylene”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7 and 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 7, the claim recites "soluble salts of magnesium and organic acids" and it is unclear if the intended meaning is "soluble magnesium salts of organic acids" or "soluble salts of magnesium and soluble salts of organic acids". For the purpose of this office action, the examiner has interpreted the "soluble salts of magnesium and organic acids" as the former.

Regarding claim 11, the claim recites the term “a water” and it is unclear what this term is intended to mean. For the purpose of this office action, the examiner has

interpreted the "a water" as "water". This includes **claim 12**, as it depends from **claim 11**.

Regarding claim 13, the claim recites the phrase "wherein the concentrate is benzofused and/or carry additional functional groups". It is unclear what in/about the concentrate is "benzofused and/or carry additional functional groups". For the purpose of this office action, the examiner has interpreted the above phrase to be directed towards component d) of claim 1, wherein the claimed heterocycles may be/are "benzofused and/or carry additional functional groups".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wenderoth et al. (WO 02/08354 A1, using U.S. PGPub 2003/0164470 as English language equivalent), in view of Ashikhmin et al. (SU 1838362 A3, Derwent Abstract).

Regarding claims 1 and 2, Wenderoth et al. teaches an antifreeze concentrate ([0019] ln 2) based on alkylene glycol, glycerol and/or their derivatives ([0019] ln 2-3), the antifreeze concentrate comprising (instant component b) from 0.05 to 10% by weight, based on the a total amount of the concentrate, of one or more carboxamides and/or sulfonamides (**see disclosed component a**) ([0020]), where the amides may be unsubstituted or alkyl-substituted ([0022] ln 1-2). This overlaps with the instantly claimed range of from 0.01 to 10% by weight.

Wenderoth et al. further teaches an antifreeze concentrate comprising (**instant component c**) from 0.05 to 5% by weight, based on a total amount of the concentrate, of one or more aliphatic, cycloaliphatic or aromatic amines of 2 to 15 carbon atoms, which may additionally contain ether oxygen atoms or hydroxyl groups ([0074]). This overlaps with the instantly claimed range of from 0.05 to 10% by weight.

Wenderoth et al. further teaches an antifreeze concentrate comprising (**instant component d**) from 0.05 to 5% by weight, based on a total amount of the concentrate, of one or more mononuclear or dinuclear unsaturated or partly unsaturated heterocycles of 4 to 10 carbon atoms ([0075]). This overlaps with the instantly claimed range of from 0.05 to 10% by weight.

Wenderoth et al. further teaches the presence of higher glycols and glycol ethers such as diethylene glycol and dipropylene glycol.

Wenderoth et al. does not teach the presence of **(instant component a)** from 0.05 to 10% by weight, based on a total amount of the concentrate, of one or more polyethylene glycols and/or polypropylene glycols selected from the Markush group of instant **claim 1 (component a)** and mixtures thereof. However, Ashikhmin et al. teaches a coolant composition comprising ethylene glycol as well as triethyleneglycol (**instant claims 1-2**, abstract). Furthermore, Ashikhmin et al. teaches the triethyleneglycol as present from 0.5 to 1.5 wt%, which overlaps with the claimed range of from 0.05 to 10% by weight (**instant claim 1**). Wenderoth et al. and Ashikhmin et al. are combinable because they are concerned with the same field of endeavor, engine coolants with increased corrosion resistance. At the time of the invention a person having ordinary skill in the art would have found it obvious to add the glycol system (i.e. combined monoethylene glycol and the higher triethyleneglycol) of Ashikhmin et al. to the concentrate of Wenderoth et al. and would have been motivated to do so to produce a low freezing point coolant with increased corrosion resistance.

Regarding claim 2, modified Wenderoth teaches the claim limitations as set forth above and Ashikhmin et al. further teaches the concentrate wherein the compound is triethyleneglycol (abstract).

Regarding claims 3-4, Wenderoth et al. further teaches the concentrate wherein the one or more carboxamides and/or sulfonamides (**instant component b**) is at least

one member of the Markush group of instant **claims 3 and 4** ([0022], see also examples from [0023] to [0072]).

Regarding claim 5, Wenderoth et al. further teaches the concentrate further comprising (**instant component e**) from 0.05 to 5% by weight, based on the total amount of the concentrate, of one or more tetra(C₁-C₈-alkoxy)silanes or (tetra-C₁-C₈-alkyl esters of orthosilicic acid) ((tetra-C₁-C₈-alkyl orthosilicates))([0076]). This overlaps with the instantly claimed range of 0 to 10% by weight.

Regarding claim 6, Wenderoth et al. further teaches the concentrate further comprising one or more of the following compounds stated below ([0081]):

(**instant component f**) from 0.05 to 5% by weight, based on the total amount of concentrate, of one or more aliphatic or aromatic monocarboxylic acids, each of 3 to 16 carbon atoms, in the form of the alkali metal, ammonium or substituted ammonium salts ([0082]). This overlaps with the instantly claimed range of from 0 to 10% by weight.

(**instant component g**) from 0.05 to 5% by weight, based on the total amount of the concentrate, of one or more aliphatic or aromatic dicarboxylic acids, each of 4 to 20 carbon atoms, in the form of the alkali metal, ammonium or substituted ammonium salts ([0083]). This overlaps with the instantly claimed range of from 0 to 10% by weight.

(**instant component h**) one or more alkali metal borates, alkali metal phosphates, alkali metal silicates, alkali metal nitrites, alkali metal or alkaline earth metal nitrates, molybdates or alkali metal or alkaline earth metal fluorides, each in amounts of up to 1% by weight, based on the total amount of the concentrate ([0084]). This overlaps with the instantly claimed range of from 0 to 1% by weight.

(**instant component i**) up to 1% by weight, based on a total amount of the concentrate, of one or more hard water stabilizers based on polyacrylic acid, polymaleic acid, acrylic acid/maleic acid copolymers, polyvinylpyrrolidone, polyvinylimidazole, vinylpyrrolidone/vinylimidazole copolymers and/or copolymers of unsaturated carboxylic acids and an olefins ([0085]). This overlaps with the instantly claimed range of from 0 to 1% by weight.

Regarding claim 7, Wenderoth et al. further teaches the concentrate comprising soluble magnesium salts of organic acids, hydrocarbazoles, or quaternized imidazoles ([0093]).

Regarding claims 8-9, Wenderoth et al. further teaches the concentrate wherein:

- the alkylene glycols and their derivatives and/or glycerol are present in amounts of at least 75% by weight ([0095] In 3-5) (**claim 8**) which overlaps with the instantly claimed range of $\geq 75\%$ by weight;
- the alkylene glycol is an ethylene glycol, a propylene glycol, and/or mixtures thereof ([0095] In 4-13) (**claim 9**).

Regarding claim 10, Wenderoth et al. further teaches the concentrate whose pH is from 4 to 11 ([0094] In 1-2).

Regarding claim 11, Wenderoth et al. further teaches an aqueous coolant composition which comprises water and from 10 to 90% by weight of the antifreeze concentrate ([0098], see also Table 1, examples 1-6 wherein 69% by weight

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monoethylene glycol is present). This overlaps with the instantly claimed range of 30 to 70% by weight.

Regarding claim 13, Wenderoth et al. further teaches the concentrate wherein the heterocycles may be benzofused ([0078] ln 1-4) and/or carry additional functional groups ([0078] ln 6-8).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wenderoth et al. (WO 02/08354 A1, using U.S. PGPub 2003/0164470 as English language equivalent), in view of Ashikhmin et al. (SU 1838362 A3, Derwent Abstract).

Regarding claim 12, Wenderoth et al. in view of Ashikhmin et al. render the composition of claim 11 obvious as set forth above. Wenderoth et al. further teaches use of the diluted coolant concentrate in magnesium-containing internal combustion engines ([0001]-[0003], [0098]-[0099], see also disclosed claims 1 and 8).

Furthermore the recitation that the basic formulation containing said aqueous coolant composition is to be used for preventing corrosion does not confer patentability to the claims since the recitation of an intended use does not impart patentability to otherwise old compounds or compositions. *In re Tuominen*, 671 F.2d 1359, 213 USPQ 89 (CCPA 1982). Furthermore, the recitation of a new intended use for an old product does not make a claim(s) to that product patentable. *In re Schreiber*, 44 USPQ 2d 1429, (Fed. Cir. 1997). See also MPEP § 2111.02 and § 2112 - § 2112.02.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JANE L. STANLEY whose telephone number is (571)270-3870. The examiner can normally be reached on Monday-Thursday, 7:30AM-5PM, Alt. Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MARK EASHOO/
Supervisory Patent Examiner, Art Unit 1796
25-May-08

JLS